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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/744,096

03/05/2000

Bernhard Schick

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EXAMINER

WOO, STELLA L

ART UNIT

PAPER NUMBER

2643

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/744,096

Applicant(s)

SCHICK, BERNHARD

Examiner

Stella L. Woo

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Objections

1. Claim 30 is objected to because of the following informalities: Claim 30 recites the sensor having a frequency range of 1-10 Hz. However, on page 4, line 12, the specification describes a frequency range of 1 Hz to 10 kHz. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 28, 33-36, 38-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller (US 5,237,617) for the same reasons given in the last Office action and repeated below.

Regarding claim 28, Miller discloses an apparatus (Figure 1) comprising:

a pressure sensor for detecting fluctuations in pressure in a fresh air stream to said engine (detector 23 is connected to a vacuum line of the vehicle engine to detect vacuum pulsations at the manifold; col. 2, lines 14-20; col. 3, lines 35-38, 48-55);

an amplification device (amplifiers 47 and 48; col. 4, lines 61-64); and

at least one speaker disposed in said interior vehicle space (loudspeakers 52 and 53 of the automobile stereo system; col. 4, line 58 – col. 5, line 3).

Regarding claims 33-34, 38-39, Miller shows detector 23 inserted in a vacuum line in the engine (col. 3, lines 48-51) and detector 16 measures throttle position (col. 3, lines 22-23).

Regarding claim 35, Miller discloses a method comprising:

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detecting pressure fluctuations inside an air intake conduit (detector 23 is connected to a vacuum line of the vehicle engine to detect vacuum pulsations at the manifold; col. 2, lines 14-20; col. 3, lines 35-38, 48-55), wherein the pressure sensor generates signals representative of the noise of the engine (signals output by detector 23 are used by analyzer 11 to produce a digital signal output indicative of engine operating conditions, which are converted to sound signals by synthesizer 32; col. 3, line 56 - col. 4, line 22);

amplifying said signals (via amplifiers 47 and 48; col. 4, lines 61-64); and

supplying the amplified signals to at least one speaker disposed inside a cabin of the vehicle (the amplified analog signals are output to loudspeakers 52 and 53 of the automobile stereo system; col. 4, line 58 – col. 5, line 3), wherein the last least one speaker outputs sounds representative of the engine noise (the analog signals emulate the sounds of the engine and exhaust; col. 4, lines 20-22).

Regarding claim 36, Miller provides analog filters (col. 2, line 39) and producing analog sound signals based on signals output by various sensors which indicate engine operating conditions (col. 3, line 11 - col. 4, line 25).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 29, 40, 42, 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Kosugi et al. (US 5,168,192, hereinafter "Kosugi").

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Miller differs from claims 29, 40, 42, 45-46 in that it does not specify the pressure sensor as comprising a piezoelectric element. However, Kosugi teaches the well known use of a piezoelectric element in a vacuum pressure sensor (col. 1, lines 36-47) such that it would have been obvious to an artisan of ordinary skill to use a piezoelectric element, as taught by Kosugi, within the vacuum pressure sensor of Miller for providing an electric signal in response to detected pressure changes.

6. Claims 30-32, 41, 43-44, 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Kosugi, as applied to claim 29 above, and further in view of Focht (US 4,446,724).

The combination of Miller and Kosugi differs from claims 30, 41, 43-44, 47 in that it does not specify the sensor having a frequency range of about 1-10 kHz. However, Focht teaches the desirability of a pressure sensor having a frequency response from 0-10 kHz in order be wide enough to pass relevant manifold vacuum changes (col. 2, lines 20-25). It would have been obvious to an artisan of ordinary skill to incorporate such a frequency range, as taught by Focht, for the vacuum sensor of Miller and Kosugi in order to adequately detect manifold vacuum changes while eliminating noise signals higher than 10 kHz.

Regarding claims 31-32, Miller provides for a filter (col. 4, lines 36-38) and a modulator (personality module 38 is programmed to emulate the engine sounds of a particular vehicle type; col. 4, lines 9-57).

7. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Kwang (US 5,384,855).

Miller differs from claim 37 in that it does not specify attenuating frequencies above 300 Hz. However, Kwang teaches the desirability of attenuating frequencies higher than 300 Hz in a vehicular audio system (col. 1, lines 43-50; via selector 53 of Figure 1A) in order to eliminate resonances within the vehicle such that it would have been obvious to an artisan of ordinary skill to incorporate an audio filter, as taught by Kwang, within the apparatus of Miller in order to effect a pleasant audio experience within the vehicular cabin.

Response to Arguments

8. Applicant's arguments filed December 13, 2004 have been fully considered but they are not persuasive.

Applicant argues that "Miller relies upon a stored data file containing pre-recorded engine sounds and/or purely electronic means to generate the base engine sounds," whereas "the presently claimed inventions rely upon a pressure sensor to generate the base engine sounds." However, the claims recite generating "signals representative of engine sounds based upon said pressure fluctuations detected by the pressure sensor" (claim 28). Miller clearly provides for generating signals representative of engine sounds (synthesizer 32 produces digital output signals which, when converted to analog signals, emulate the sounds of the engine and exhaust; col. 4, lines 8-25) based upon said pressure fluctuations detected by the pressure sensor (the sound signals are based on signals output by vacuum sensor 23 along with other input signals which are indicative of the engine operating conditions; col. 3, line 11 - col. 4, line 9).

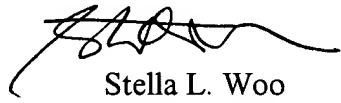
Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matly et al. show the use of a piezoelectric element in a vacuum pressure sensor. Harned et al. show the use of a frequency range of 0 Hz to 10 kHz.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stella L. Woo whose telephone number is (571) 272-7512. The examiner can normally be reached on Monday-Tuesday, Thursday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Stella L. Woo
Primary Examiner
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